

1 **Supplementary information**

Protein	Accession number
LugJ	WP_002460039.1
LugI	WP_002460038.1
LugE	WP_002478838.1
LugF	WP_002478839.1
LugG	WP_002460034.1
LugH	WP_002460033.1
LugR	WP_002460032.1
LugA	WP_002492248.1
LugB	WP_081094477.1
LugC	WP_037540567.1
LugT	WP_002460022.1
LugD	WP_002478846.1
LugZ	WP_002478847.1
LugM	WP_002492211.1

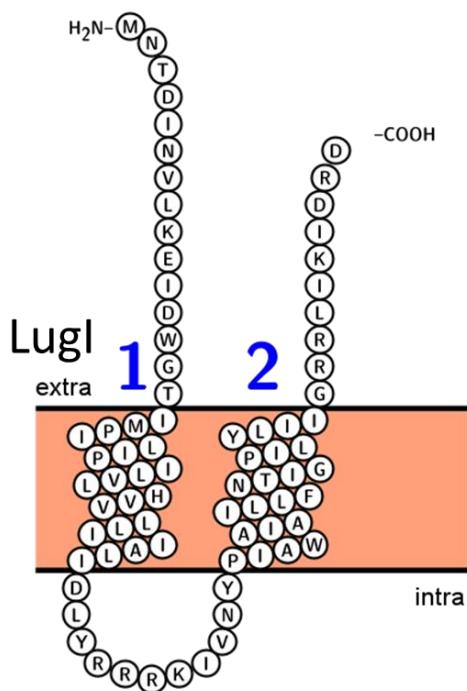
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3 **Table S1:** Accession numbers of the proteins involved in lugdunin biosynthesis, transport
4 and putative regulation

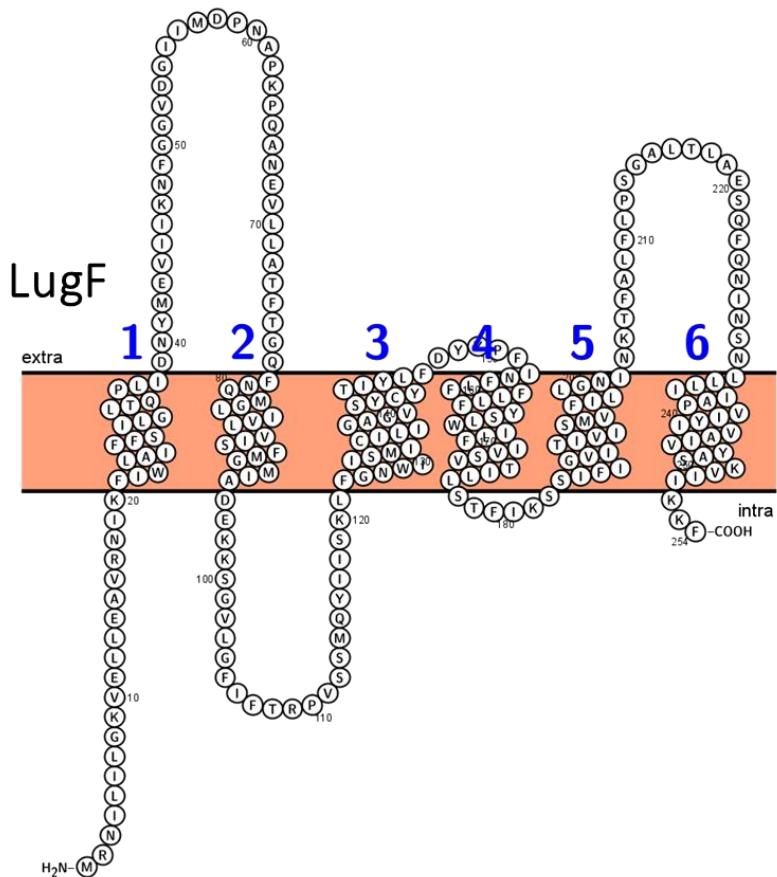
Compound	MIC <i>S. aureus</i> pRB474	MIC <i>S. aureus</i> pRB474-lugIEFGH	Ratio
lugdunin	8.15	33.68	4.13
Enantio-lugdunin	31.3	69.75	2.23
6-Trp-lugdunin	16.43	31.05	1.89
2-Ala-lugdunin	40.17	39.93	0.99
daptomycin	2.17	2.17	1
CCCP	0.63	0.64	1.02
gramicidin S	2.75	2.74	1.00
nigericin	0.25	0.25	1.00

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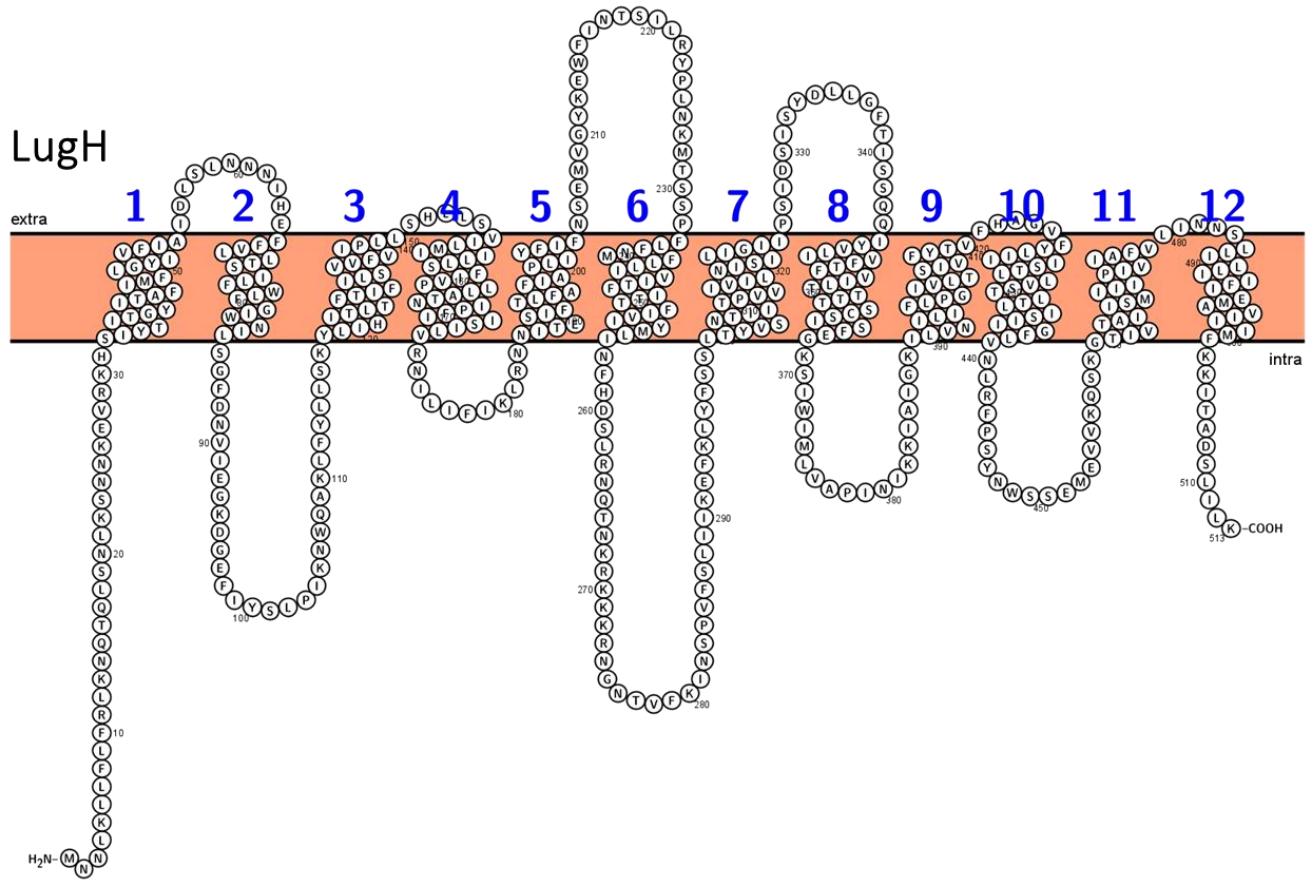
6 **Table S2:** Mean MIC values in BM-medium of all tested compounds for *S. aureus* pRB474
7 and pRB474-lugIEFGH



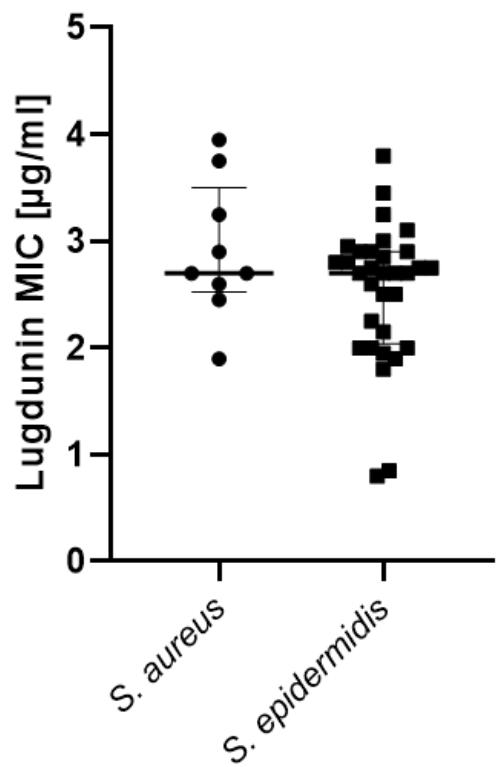
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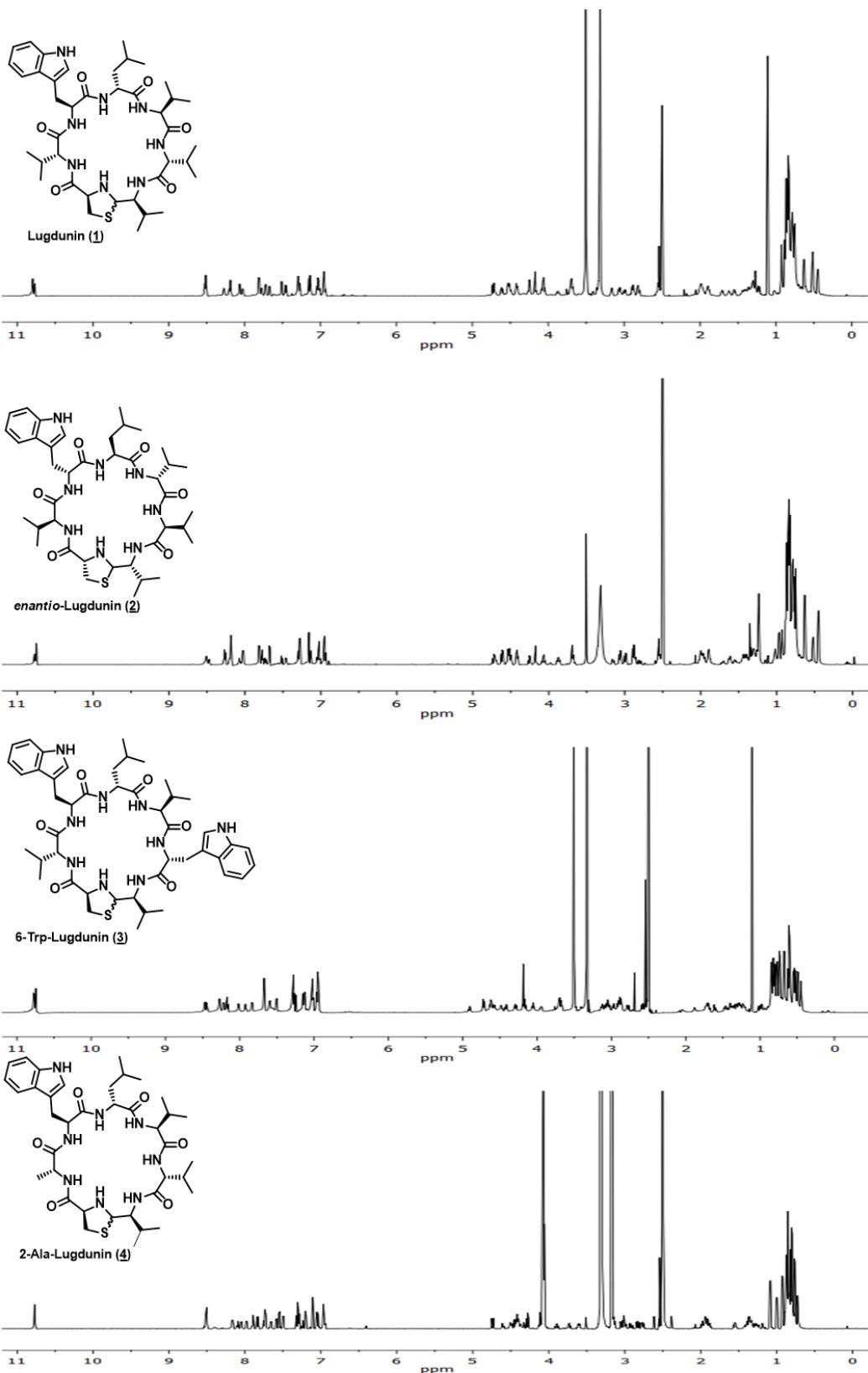
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11 **Fig. S1:** Predicted transmembrane topologies of LugI, LugF, and LugH. The
12 transmembrane topology for LugI, LugF, and LugH was predicted with the help of
13 PROTTER (version 1.0; <http://wlab.ethz.ch/protter/start/>) (1).



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15 **Fig. S2:** Comparison of lugdunin susceptibility of individual nasal *S. aureus* and *S.*
16 *epidermidis* isolates. The MIC of lugdunin was tested against representative nasal *S.*
17 *aureus* and *S. epidermidis* isolates. Shown are the medians with interquartile range for
18 the two groups.

19



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21 **Fig. S3:** Chemical structural formula of synthetic lugdunin analogues **1 – 4** and ¹H NMR22 spectra thereof (d_6 -dmsc, 700 MHz, 303K).

23 **Literature**

- 24 1. Omasits U, Ahrens CH, Muller S, Wollscheid B. 2014. Protter: interactive protein
25 feature visualization and integration with experimental proteomic data.
26 Bioinformatics 30:884-6.

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